



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/720,104

11/25/2003

Atsushi Kato

8017-1114

4484

466

7590

11/16/2005

YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

DOWLING, WILLIAM C

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,104

Applicant(s)

KATO, ATSUSHI

Examiner

William C. Dowling

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 3,7,11 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 112503.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-16 are objected to because of the following informalities: It is believed that the language contained in independent claims 1, 9 do not clearly represent the limitations of the invention. The phrase "uniformly converting the illumination beams to the same type of linearly polarized light" implies that each beam is either P light or S light wherein the device more accurately is "converting each of the illumination beams to light of orthogonally linearly polarized lights" which can be combined by a PBS. If the lights were of the same polarized light they could not be combined "depending on the type of polarized light". Appropriate correction is required.

Double Patenting

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claim 14 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 10. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is

proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 9-10, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shouji et al. (6,336,724) in view of JP 2002-228973 and Parker (6,224,216).

Shouji et al. (6,336,724) discloses a projection system comprising two light sources (1a, 1b) being converted into orthogonal linearly polarized lights by polarization conversion means (5,6) and combined into a single beam by a polarizing beam splitter (7)

Shouji et al. does not teach the formation of light sources from LED arrays of red, blue, and green diodes.

JP 2002-228973 teaches the use of LED arrays of red, blue, and green diodes as light sources and polarization conversion means to convert the light into that of a single polarization for impingement on a PBS.

Parker (6,224,216) specifies that LED arrays having red, blue, and green diodes may be employed to produce white light (Column 7 Lines 36-46).

It would have been obvious to one skilled in the art to modify the device of Shouji et al. by the substitution of an alternate type of light source for emitting white light, such as LED arrays as taught by JP 2002-228973 and Parker, in order to allow for adjustment in white balancing in the emitted beam combined by a PBS.

6. Claims 5, 6, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shouji, JP 2002-228973, and Parker as applied to claims 1, 9 above, and further in view of Roddy et al. (6,769,772).

Shouji, JP 2002-228973, and Parker disclose the invention substantially as claimed but do not teach the use of a converging optical means.

Roddy discloses the use of converging lens means (16) for converging light from an array of LED's for transmission to PBS's.

It would have been obvious to one skilled in the art at the time of the invention to modify the above combination by the addition of converging lens means in order to obtain condensed light impingement of the PBS's.

7. Claims 4, 8, 12, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shouji, JP 2002-228973, and Parker as applied to claims 1, 5, 9, 13 above, and further in view of Hansen et al. (6,447,120).

Shouji, JP 2002-228973, and Parker disclose the invention substantially as claimed but do not teach the use of a wire grid polarizer as the PBS.

Hansen (6,447,120) exemplifies the known use of wire grid polarizers in both transmissive/reflective and reflective/transmissive modes.

It would have been obvious to one skilled in the art at the time of the invention to modify the above combination by the substitution of a wire grid polarizing splitter for a prism system because of the increased efficiency of wire grid polarizers.

Allowable Subject Matter

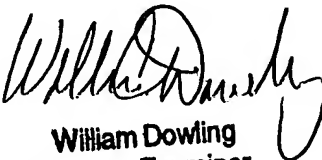
8. Claims 3, 7, 11, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Dowling whose telephone number is 571-272-2116. The examiner can normally be reached on MON-THURS.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-1750. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

wcd


William Dowling
Primary Examiner